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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/796,220	03/09/2004	Akinobu Takeda	75A 3523	2712

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LOS ANGELES, CA 90067

EXAMINER

GUIDOTTI, LAURA COLE

ART UNIT	PAPER NUMBER
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1744

DATE MAILED: 03/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/796,220

Applicant(s)

TAKEDA, AKINOBU

Examiner

Laura C. Guidotti

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 Line 7, what is meant by the term "appropriate"?

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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3. Claim 2 is rejected under 35 U.S.C. 102(b) as being anticipated by Schneider, USPN 5,570,487.

Schneider discloses the claimed invention including a toothbrush with a laterally oriented head (14) wherein a handle (11) and a head of the toothbrush (14) are formed substantially in a T shape (Figure 2), and an overall upper surface of bristles on the head (22) is in an arc shape that is centered on an axial center of the handle (26; Figure 4), and wherein a lateral width of the head is set at "substantially" 20 mm to 15 mm (22.225 mm; Column 3 Lines 22-24).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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4. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider, USPN 5,570,487 in view of Applicant's Specification.

Schneider discloses all elements above, including that the overall upper surface of the bristles is formed in an arc-shape that is inclined towards the handle (Figure 1). The bristles are formed with a curvature of radius that is centered at what appears to be a point of intersection between the axial center of the handle and an undersurface of the head (Figure 4), however Schneider does not disclose a specific value for the curvature radius, specifically 15 mm. Schneider does state that the curvature of the brushing surface (26) approximates the curvature of the teeth and gums on the interior or lingual sides of the upper and lower incisors and cuspids (Column 3 Lines 47-52).

The Applicant's specification on Page 6 Lines 3-9 and 25-28 cites published standard values regarding the spacing between teeth and the diameter of the dental arch of contemporary Japanese adults with normal occlusion. Particularly, the measurements of the *diameter* of the dental arch are reported to be 32 mm (female) or 33 mm (male) according to the publication (Page 6 Lines 25-28). It can therefore be implied that the radius of the dental arch is half the diameter, or roughly 16 to 16.5 mm.

It would have been obvious for one of ordinary skill in the art to modify the curvature radius of Schneider to be 16 mm or approximately 15 mm, based upon the teachings found in the Applicant's specification, so that the bristles have a curvature that approximates the interior or lingual sides of the dental arch.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirschmann, USPN 5,787,540 in view of Schneider, USPN 5,570,487.

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Hirschmann discloses the claimed invention including a toothbrush with a laterally oriented head (14) wherein a handle (12) and a head of the toothbrush (14) are formed in a T shape (best shown in Figures 2-3), and an overall upper surface of bristles (28) on the head is in an arch shape (see particularly Figures 6 and 10) that is centered on an axial center of the handle (see Figures 2-3, 5-6), and wherein portions of the bristles formed in an arc shape that are located on a neck side (32) are formed in a circular arc that has a smaller curvature radius which is concentric with a curvature radius of the arc shape (best shown in Figures 1 and 3-4; Column 2 Line 65 to Column 3 Line 9), and part of an overall upper surface of the bristles is formed in a gradual curve along the width dimension of the bristles toward the circular arc (Figure 6). Hirschmann does not disclose a lateral width of bristles on the head is between 20 mm and 15 mm.

Schneider discloses all elements above, particularly that a lateral width of the head where the width of bristles extend is set at "substantially" 20 mm to 15 mm (22.225 mm; Column 3 Lines 22-24)

It would have been obvious for one of ordinary skill in the art to modify the lateral width of bristles on the head of Hirschmann to be substantially between 20 mm to 15 mm, as Schneider teaches, so that a user may employ the brush to clean a larger surface area at one time.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Protell et al., USPN 4,356,585 in view of Lee, USPN D428,261 and further in view of Funk, USPN 2,697,239.

Protell et al. disclose a toothbrush comprising a handle portion (12) and a head of a toothbrush (14), a portion of a handle that extends from an end of the handle to a point approximately halfway along a total length of the handle including the head is formed as a grip (see Figures 1 and 3) and an "appropriate" length of the handle from a tip end of the head is formed as a neck (16), a gradually curved inclined portion of the neck and handle is provided (rightmost portion of 16 and 12, best shown in Figure 1), and a recessed portion is formed between the neck and then head (see Figure 1, recessed portion near where marking "13" is located). Although Protell et al. discloses that the cross-sectional shape of the handle can be any desired cross sectional shape (Column 4 Line 63 to Column 5 Line 5) does not disclose specifically that the grip has a cross-sectional shape of semi-circular and that the neck is cylindrical. Also, Protell et al. does not disclose that the handle and head are of a T shape and that overall upper surfaces of bristles on the head are in an arc shape.

Lee teaches a toothbrush that has a head and handle in a T shape, wherein the cross sectional shape of the grip portion of the handle is semi-circular and the neck is cylindrical (see Figure 1).

Funk teaches a toothbrush that has a head (unlabeled) and a handle (9) that is in a T shape (see Figures) and wherein the overall upper surface of bristles on the head is in an arc shape (Figure 3) in order to engage the lingual surfaces of the teeth with a substantially uniform pressure (Column 2 Lines 19-26).

It would have been obvious for one of ordinary skill in the art to modify the toothbrush handle and neck geometry of Protell et al. to have a cylindrical neck and

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semi-circular grip handle, as Lee teaches, as a suitable grip and supporting means for brushing teeth, and further it would have been obvious for one of ordinary skill in the art to substitute the toothbrush head of Protell et al. for one that is laterally oriented to form a T shape and have bristles in an arc shape so that a user cleaning teeth is able to engage the curvature of the lingual surfaces of the teeth.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

USPN 6,230,355 to Harada discloses an invention somewhat similar in structure to the Applicant's, however does not specifically state a lateral width value, radius of curvature value, or have similar handle and neck geometries of the Applicant's invention.


8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura C. Guidotti whose telephone number is (571) 272-1272. The examiner can normally be reached on Monday-Thursday, 7:30am - 5pm, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys Corcoran can be reached on (571) 272-1214. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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GLADYS J.P. CORCORAN
PRIMARY EXAMINER